Math 172 - Quiz 8

October 25, 2017

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (5 points) A metal plate has the shape of an isosceles triangle with base length 2 feet and altitude 3 feet. The plate will be used as the end of a trough that will hold untreated sewage weighing $97\,\text{lbs/ft}^3$. Find the fluid force on the plate when the sewage in the trough is 2 feet deep. (Use your calculator to evaluate the required integral(s).)

2. (5 points) Integrate.

    (a) $\displaystyle \int \frac{x+4}{x^2+8x+17}\, dx$

    (b) $\displaystyle \int \frac{dx}{x^2+8x+17}$